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Corporate Law Research Seminar  
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May 2008

*Preliminary Draft: Comments warmly welcomed. Please do not cite.*

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\* [gross@post.harvard.edu](mailto:gross@post.harvard.edu). I would like to thank Professor Mark J. Roe for helpful comments, conversation, and advice. I would also like to thank the participants in Professor Roe's 2007-2008 Corporate Law Research Seminar for their enthusiastic and thoughtful feedback. All errors are my own. A final draft will be posted in fall 2008.

## I. INTRODUCTION

Product market competition is often said to mitigate managerial agency problems.<sup>1</sup> The usual story is that managers who operate firms in non-competitive markets face little pressure to produce goods efficiently, but managers who operate firms in competitive markets must eliminate all inefficiencies--or face extinction. The theoretical literature, however, is mixed, with recent scholars struggling to formalize the hypothesis.<sup>2</sup> Likewise, the empirical evidence is scant. Early studies often suffered from omitted variables bias, and recent studies have focused not on product market competition, in general, but on finer distinctions, instead.<sup>3</sup> Consequently, views on the effectiveness of product market competition vary greatly, with early scholars suggesting that managerial slack cannot exist in competitive industries, but recent scholars coming to much more modest conclusions.<sup>4</sup>

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<sup>1</sup> See, e.g., Armen A. Alchian, *Uncertainty, Evolution, and Economic Theory*, 58 J. POL. ECON. 211 (1950); Mark J. Roe, *Corporate Law's Limits*, 31 J. LEGAL STUD. 233 (2002); George J. Stigler, *The Economics of Scale*, 1 J. L. & ECON. 54 (1958). See also Andrei Shleifer and Robert W. Vishny, *A Survey of Corporate Governance* 52 J. OF FIN. 737 (1997) (arguing that firms with suboptimal governance structures will be forced out of the market more quickly when product market competition is strong).

<sup>2</sup> For early informal arguments, see Oliver D. Hart, *The Market Mechanism as an Incentive Scheme*, 14 BELL J. ECON. 366 (1983) and Fritz Machlup, *Theories of the Firm: Marginalist, Behavioral, Managerial*, 57 Am. Econ. Rev. 1 (1967). Recent literature finding an ambiguous effect include C. Graziano and B.M. Parigi, *Do Managers Work Harder in Competitive Industries?*, 34 J. ECON. BEHAV. & ORG. 489 (1998); Benjamin E. Hermalin, *The Effects of Competition of Executive Behavior*, 23 R. J. ECON. 250 (1992); and David Scharfstein, *Product-Market Competition and Managerial Slack*, 19 RAND J. ECON. 147 (1988). Scharfstein, for example, reconsiders Hart's original model by relaxing the assumption that managers are infinitely risk averse. Graziano and Parigi consider a linear principal agent model and find that although a reduction in product market differentiation lowers managerial effort, reductions in industry concentration have an ambiguous effect on effort. See also Bengt R. Hölmström and Jean Tirole, *The Theory of the Firm*, 1 Handbook of Industrial Organization 97 (R. Schmalensee and R.D. Willig eds., 1989) (concluding that "the simple idea that product market competition reduces slack is not as easy to formalize as one might think").

<sup>3</sup> For an early study, see, e.g., Timothy H. Hannan & Ferdinand Mavinga, *Expense Preference and Managerial Control: The Case of the Banking Firm*, 11 BELL J. ECON. 671 (1980) (arguing that banks operating in concentrated markets spend more on overhead and employ relatively more workers). For more one of the few more recent studies, see, e.g., K.J. Martin Cremers, Vinay B. Nair, and Urs Peyer, *Weak Shareholder Rights: A Product Market Rationale* (Yale U., mimeograph, 2006).

<sup>4</sup> Some, such as Alchian, supra note 1, and Stigler, supra note 1, suggest that managerial slack cannot exist in competitive industries, but others, e.g., Shleifer and Vishny, supra note 1, insist that "while [sic] we agree that

Yet determining the effects of product market competition on managerial rent-seeking is important. If product market competition checks corporate agency problems, then there may be little need for strong shareholder rights or incentive pay in competitive industries. But if product market competition little disciplines managers, then other agency cost checks, such as concentrated ownership and dividend payouts become increasingly important, disciplining managers who exercise more discretion than previously thought.

Consequently, the goal of this paper is to examine whether product market competition reduces managerial slack, and whether it amplifies or reduces the effects of other governance mechanisms. To make the problem empirically relevant, I ask two questions: does product market competition substitute for other governance mechanisms, rendering them moot or unnecessary in equilibrium? And, second: if product market competition limits agency costs, does it affect the value of other governance mechanisms, making them more valuable when product market competition is weak, but less valuable when it is robust?

To answer these questions, I turn to the markets for blockholding and shareholder rights. In particular, I examine whether blockholding and strong governance occur more frequently in concentrated product markets, and whether their effects on firm performance and value are higher when product market competition is weak.

In short, I find that firms operating in concentrated product markets are more likely to have strong shareholder rights and concentrated ownership, and that strong shareholder rights and

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product market competition is probably the most powerful force toward economic efficiency, we are skeptical that it alone can solve the problem of corporate governance”(738). *See also* Mark J. Roe, *Rents and Their Corporate Consequences*, 53 STANFORD L. REV. 1463, 1472 n.11 (arguing that “[p]roduct markets and strong owners each constrain managers, albeit imperfectly”).

concentrated ownership correlate with high performance and valuation only when product markets competition is weak. Taken together, these findings suggest that in equilibrium, external governance mechanisms, such as concentrated ownership and shareholder rights, substitute for product market competition, and that once this substitution occurs, the external governance mechanisms are only as valuable as the alternative agency cost checks they seek to replace.

If robust, my findings have substantial implications. First, they suggest that a host of recent calls for broad-based governance reform likely over-reach, targeting not only firms that would benefit from stronger internal governance, but also firms whose managers are already checked by blockholders and product market competition. Put differently, if shareholder rights are costly, or if governance reformers have limited reputational capital, then my results suggest that governance activists should take a more limited line, focusing their efforts only on firms that lack blockholders or that operate in concentrated product markets.

Second, my results suggest that law and finance scholars should revisit recent empirical studies linking concentrated ownership and shareholder rights to improved corporate performance. In general, the studies suffer from a two-fold problem omitted variables problem. First, by assuming that the effects of concentrated ownership and strong shareholder rights are constant across all firms without regard for product market competition, the studies likely overestimate the impact of concentrated ownership and strong shareholder rights whenever product market competition is robust.<sup>5</sup> Second, by ignoring the effects of product market

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<sup>5</sup> The problem, in short, is that recent studies that do not control for product market competition will estimate the effect of corporate governance on firm performance or valuation by looking at all firms. Because the effect will be close to zero for firms that operate in competitive industries, the studies will underestimate the effects of strong governance on firms operating in competitive industries but overestimate it on firms operating in non-competitive industries. For an example of one such study, see, e.g., Paul A. Gompers, Joy L. Ishii, and Andrew Metrick,

competition on managerial rent-seeking, the studies likely underestimate the power of blockholders and shareholder rights to improve firm performance and increase firm valuation whenever product market competition is weak. The upshots, then, are that the results of most past studies should be viewed with some skepticism, and that future studies should take a more nuanced approach when estimating the effects to various governance mechanisms on firm performance and value.

Finally, by shifting the focus from the direct effects of blockholding and shareholder rights on firm performance and valuation to the interaction between various governance mechanisms, my findings highlight the panoply of ways that regulators can check rent-seeking managers. If, for example, blockholding substitutes for shareholder rights when product market competition is weak, then regulators might wish to protect shareholders not by increasing corporate disclosure or shareholder power, but by decreasing the regulatory burdens of blockholding. Likewise, if product market competition checks managerial rent-seeking, then courts and antitrust regulators might cast a more skeptical eye towards mergers that eliminate price competition, noting that mergers to monopoly are not only likely to lower consumer welfare, but also likely to benefit management at the cost of a third party: shareholders.

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This article proceeds as follows. In Part II, I describe my theoretical framework. In Part III, I review the existing literature. In Part IV, I discuss my data. Part V introduces my empirical strategy and presents my results. Part VI discusses the limitations of my analysis and concludes.

## II. AGENCY COSTS, CORPORATE GOVERNANCE, AND BLOCKHOLDERS

By reducing managers' incentives to act against shareholders' interests, corporate governance can substantially affect firm value.<sup>6</sup> But when is corporate governance needed most? And when are particular governance mechanisms most valuable?

Because neither managers nor individual governance mechanisms act in isolation, I will devote the rest of this section to exploring what factors influence the magnitude of the managerial agency problem and how several corporate governance mechanisms might mitigate this problem.

### A. *Ownership and The Managerial Agency Problem*

As Adolf Berle and Gardner Means recognized more than seventy-five years ago, the root of the managerial agency problem is the separation of ownership from control.<sup>7</sup> The separation creates two problems. First, it creates a wedge between managerial and shareholder interests. Specifically, because managers who lack full ownership of the firm never fully internalize the economic consequences of their decision making, managers who are not owners will always have incentives to maximize their own interests and not those of shareholders. Second, because the separation of ownership and control enables managers to acquire informational advantages over shareholders, it also makes it more costly for shareholders to monitor managers. Consequently, any governance mechanism that limits managerial discretion or that aligns managerial incentives with those of shareholders will reduce the corporate agency problem.

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<sup>6</sup> ADOLF A. BERLE & GARDINER C. MEANS, *THE MODERN CORPORATION AND PRIVATE PROPERTY* 6 (1932).

<sup>7</sup> Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups* 15 & n.22 (1965).

According to legal scholars, one key factor that limits managerial discretion is product market competition.<sup>8</sup> Other factors include capital market competition, background law, and limited access to cash. In contrast, divergent interests are usually limited by internal factors, such as inside ownership and incentive compensation. Because each factor has a different effect on the returns to shareholder rights and blockholding, I will use the following sub-sections to analyze each factor individually.

### *B. Product Market Competition*

Economists and legal scholars widely believe that product market competition limits managerial rent-seeking.<sup>9</sup> The theory is simple. When product markets are competitive, management is forced to run a tight ship, motivating employees to efficiently produce outputs at the minimum average cost. But when competition is weak, managers can rest on their laurels, “stick[ing] their fingers” in “bigger pot[s] of value”: the producer surplus that would have been competed away in less concentrated markets.<sup>10</sup>

Scholars are less sure how much product markets limit agency costs, though. For example, the theory’s earliest proponents, such as Alchian and Stigler, routinely suggested that product market competition eliminates all managerial slack, reasoning that over the long haul, new firms--or new managers--will drive inefficient managers into retirement.<sup>11</sup> Recent scholars, however, have typically made more modest arguments, with two leading authorities writing that

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<sup>8</sup> See, e.g., Shleifer and Vishny, *supra* note 1, at 738.

<sup>9</sup> See, e.g., Hart 1983, *supra* note 2; Shleifer and Vishny, *supra* note 1. *But see* Hölmstrom and Tirole, *supra* note 2, at 97 (concluding that it is difficult to formalize the notion that product market competition reduces managerial slack).

<sup>10</sup> See *id.* at 323; see also Roe, *supra* note 4, at 1468.

<sup>11</sup> See, e.g., FREDERICK M. SCHERER, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 38 (1980) (summarizing the early arguments by noting that “there is one simple criterion for the survival of a business enterprise: Profits must be nonnegative. No matter how strongly managers prefer to pursue other objectives [ . . . ] failure to satisfy this criterion means ultimately that a firm will disappear from the economic scene).

“[although] we agree that product market competition is probably the most powerful force toward economic efficiency in the world, we are skeptical that it alone can solve the problem of corporate governance.”<sup>12</sup>

Still, few scholars question the notion that product markets at least have the power to limit agency costs; the debate is merely over how much they do so. Consequently, the question addressed in this paper is not whether product market competition affects the returns to blockholding and strong internal governance, but rather how much it does so.

### *C. Interest Alignment*

In the Berle-Means model, agency problems occur because widely dispersed shareholders have little power to prevent managers from pursuing their own interests.<sup>13</sup> But if management owns a large stake of the company, or if management’s compensation is linked to corporate performance, then managers’ interests likely diverge little from those of shareholders. Consequently, when inside ownership is high, there likely is less need for strong internal governance or blockholding.

To see why this is the case, first consider why managers’ interests might diverge from those of shareholders. First, managers might wish to shirk, substituting leisure for effort. Second, managers might highly value nonpecuniary benefits, such as ownership of a professional sports franchise, that do little increase shareholder value.<sup>14</sup> Third, because managers’ human

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<sup>12</sup> See Shleifer and Vishny, *supra* note 1, at 738.

<sup>13</sup> See Olson, *supra* note 7, at 15.

<sup>14</sup> See, e.g., John C. Coffee, Jr., *Regulating the Market for Corporate Control: A Critical Assessment of the Tender Offer's Role in Corporate Governance*, 84 Colum. L. Rev. 1145, 1156-57 & n.24, 1167-69, 1224-34 (1984); Michael C. Jensen, *Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers*, 76 Am. Econ. Rev. 323, 323 (1986). *But see* Marianne Bertrand & Sendhil Mullainathan, *Enjoying the Quiet Life? Corporate Governance and Managerial Preferences*, 111 J. Pol. Econ. 1043, 1066-67 (2003).



capital is heavily invested in the corporation, managers might be more risk averse than shareholders.<sup>15</sup> This could discourage managers from investing in risky, but positive net present value projects. Finally, because managers' investments in the firm, unlike those of shareholders, are time limited, managers might discount near-term cash flows too little and distant cash flows too much.<sup>16</sup>

In general, all four aforementioned divergences stem from the same problem: managers bears the full costs of operating the corporation, but enjoy only a fraction of the benefits. The upshot, then, is that divergence between managerial and shareholder interests can be reduced by offering management a larger share of the benefits. This typically occurs in one of two ways: by increasing inside ownership or by tying pay to stock price performance.

Inside ownership reduces the divergence in the obvious way: by offering managers a larger fraction of the corporation's profits and losses. Incentive pay matters for similar, but more complex, reasons. First, by compensating managers with equity or its equivalent, shareholders can replicate the incentives of increased inside ownership. Second, by offering managers non-linear compensation schemes, shareholders can amplify managers' incentives so that they more closely parallel those of full owners--and not just those of five-percent or ten-percent inside owners. Finally, by awarding traditional performance-based cash bonuses to middle managers, shareholders can incentivize employees who have little power to cook the corporate books but much power to improve day-to-day operations.<sup>17</sup> In all cases, the key insight is that paying

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<sup>15</sup> See MICHAEL C. JENSEN, A THEORY OF THE FIRM: GOVERNANCE, RESIDUAL CLAIMS, AND ORGANIZATIONAL FORMS 145 (2000).

<sup>16</sup> See *id.*

<sup>17</sup> *Id.* at 146-47. Importantly, such bonus will not work for high level managers who have the ability to set the firm's accounting policies.

managers for performance can reduce the divergence of interests that makes the separation of ownership and control costly.

But neither incentive pay nor increased inside ownership are cure-alls. Regardless of the level of inside ownership or incentive compensation, management will always enjoy the full benefits of shirking and only a fraction of the benefits of working, creating an intractable agency problem unless shareholders sell--or give--management ownership of the entire company.<sup>18</sup> Consequently, as long as there is any separation of ownership from control, internal governance and shareholder monitoring will always play important roles in corporate governance.

#### *D. Other Checks on Agency Costs*

##### 1. Free Cash Flow

Managers can extract private benefits of control only to the extent their firms have enough cash to keep the lights on. Dividends thus reduce agency costs by limiting managers' access to cash, and debt creation cuts slack by bonding managers to pay out future cash flows.<sup>19</sup>

More generally, “[c]onflicts of interest between shareholders and managers . . . are especially severe when [firms] generate[] substantial free cash flow,” but relatively weak when

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<sup>18</sup> To see the problem from a slightly different angle, consider the problem of management choosing to enrich itself with corporate stock and options. If the equity compensation perfectly aligned managerial and shareholder interests, then there would be no problem. But because management receives all of the stock compensation, but bears only a fraction of its costs (the rest is borne by the shareholders), management that owns less than one hundred percent of the company will always have interests that diverge from those of shareholders. Likewise, option-based compensation that partially replicates some of the benefits of full ownership necessarily introduces other incentives, such as the desire to ratchet up firm risk taking.

<sup>19</sup> JENSEN, *supra* note 15, at 324. The agency cost reducing effects of debt are likely especially strong because debt holders can take managers to bankruptcy court; shareholders who see their dividend cut can only sell their stock.

managers have limited access to cash.<sup>20</sup> Consequently, any strategic or financial policy that increases managers' access to cash will also increase the returns to internal governance and blockholding--or to high quality corporate law, incentive compensation, and inside ownership.

## 2. Capital Markets

The capital markets also discipline managers. The mechanism works as follows. First, by increasing default risk and reducing cash available for debt repayment, managerial rent-seeking increases firms' cost of debt capital.<sup>21</sup> Second, by increasing the cost of debt and by increasing the fraction of residual cash reserved for managers, managerial rent-seeking reduces cash flows to equity and increases the costs of equity capital. Consequently, when a firm plagued by rent-seeking managers seeks to externally finance a project, it will face unusually high costs of capital--a disadvantage that will eventually drive the firm--or its managers--out of business.

## 3. Background Law

Background law also checks agency costs.<sup>22</sup> The idea is simple: by offering shareholders a cheap remedial technology, strong corporate and securities laws reduce managers' incentives to self-deal. For example, by allowing shareholders to recover compensatory damages when managers breach the duty of loyalty, the Delaware General Corporation Law effectively imposes

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<sup>20</sup> Michael C. Jensen, *Agency Costs of Free Cash Flow, Corporate Finance and Takeovers*, 76 AM. ECON. REV. (Papers and Proc.) 323, 323 (1986).

<sup>21</sup> See, e.g. Gennaro Bernile et al., *The Effect of the Options Backdating Scandal on the Stock-Price Performance of 110 Accused Companies* 11, 12 (Simon School of Business, Working Paper No. FR 06-10, 2006) (Dec. 21, 2006), available at <http://ssrn.com/abstract=952524> (noting that "[i]ncreased agency costs mean that the cost of equity capital will increase significantly, as the marketplace discounts the increased riskiness of investing in the stock of afflicted firms).

<sup>22</sup> For a detailed discussion of this point, see, e.g., Roe, *supra* note 1, 236-37 (2002). See also Andrei Shleifer & Daniel Wolfenzon, *Investor Protection and Equity Markets*, 66 J. FIN. ECON. 3 (2002) (linking equity market development to shareholder protection from managerial rent-seeking).

finer on managers who attempt to extract too many quasi-rents.<sup>23</sup> Similarly, by prohibiting false or misleading statements, and by offering shareholders the right to sue for fraud, the Federal securities laws decrease shareholders' monitoring costs, making it more difficult for managers to extract rents.<sup>24</sup>

But such legal rules have limits. They are only as effective as they are cheap to enforce, leaving managers free to expropriate quasi-rents that are less than shareholders' costs of litigation.<sup>25</sup> And because the costs of enforcement vary with ownership concentration and the strength of shareholder rights, the value of blockholding and internal governance should also vary with the quality of background law.<sup>26</sup>

#### *E. Implications for the Internal Governance Market*

As noted above, strong internal governance limits managers' ability to enrich themselves at the cost of shareholders. Consequently, strong governance will be most valuable when management has the most opportunity to seek rents and shareholders have the fewest alternative sticks. Low inside ownership, weak incentive pay, excess cash, and concentrated product markets thus all increase the value of internal governance; in contrast, dividend payments, debt service, and product market competition all reduce its value.

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<sup>23</sup> See, e.g. *Guth v. Loft*, 5 A.2d 503, 510 (Del. 1939).

<sup>24</sup> See 17 C.F.R. § 240.10b-5 (2007).

<sup>25</sup> cf. John C. Coffee, Jr., *Law and the Market: The Impact of Enforcement*, 156 U. PA. L. REV. 229, 231 (Dec. 2007) (hypothesizing that "higher enforcement intensity gives the U.S. economy a lower cost of capital and higher securities valuations").

<sup>26</sup> A wealth of empirical evidence supports this point. cf. Craig Doidge, G. Andrew Karolyi & Rene M. Stulz, *Why Are Foreign Firms Listed in the U.S. Worth More?* at 15-16 (finding that firms that cross-list on a U.S. exchange enjoy a higher premium than firms that "cross-list" but only pursue Rule 144A offerings which, presumably, constitute weaker background law).

### *F. Implications for the Blockholding Market*

When are the returns to shareholder monitoring highest? In short, when the costs of monitoring are the lowest and potential benefits highest.

Monitoring is cheapest when ownership is most concentrated. The reason is that shareholders always bear the full costs of monitoring, but enjoy only a fraction of its benefits. Consequently, as ownership becomes more concentrated, shareholders have more incentive to monitor, with the largest blockholders having the most incentive to check managerial rent-seeking. Moreover, because large stakeholders can coordinate more easily than hundreds--or thousands--of diffuse shareholders, large blockholders have a second monitoring advantage: they can communicate more cheaply. Hence, all else is equal, the largest shareholders will be the first to monitor management--and the ones most likely to increase firm value.

In contrast, the potential benefits of monitoring are a function of the quasi-rents that managers could extract absent that monitoring. Consequently, the benefits of monitoring do not vary with blockholder characteristics--except insofar as the presence of extent blockholders might discourage managers from extracting otherwise appropriable quasi-rents.

The upshots, then, are two clear hypotheses. First: when other agency cost checks fail bite, blockholding will have high returns, substantially improving corporate performance. But when product market competition is strong, and internal governance robust, blockholding will have little effect on valuation and performance. Second: as blockholding increases, the costs of shareholder monitoring will fall, increasing the ability of blockholders to check managerial rent-seeking, and creating increasing improvements in firm performance and valuation.

### III. EXISTING LITERATURE ON PRODUCT MARKET COMPETITION, INTERNAL GOVERNANCE, BLOCKHOLDING, AND AGENCY COSTS

An extensive literature links strong governance and concentrated ownership with firm value. But almost no studies examine how that linkage varies with external agency cost checks, such as product market competition. Consequently, in the rest of this section, I will review three disparate strands of literature--one on product market competition, one on internal governance, and one on blockholding--and explain how my analysis builds upon the three and brings them together.

#### A. *The Product Market Literature*

The theoretical product market literature runs deep, dating back more than fifty years. In the earliest literature, Professors Alchian, Stigler, and Machlup informally argued that product market competition eliminates all agency costs, reasoning that over the long haul, efficient firms will drive inefficient managers into retirement. More recently, scholars have tried--but often failed--to formalize Alchian and Stigler's argument. In the first formal model, Professor Hart found that product market competition reduced managerial agency problems, but only when managers were infinitely risk-averse. In later, more general models, scholars routinely found that product market competition had ambiguous effects on managerial slack.<sup>27</sup> By assuming that firms can freely enter and exit product markets, however, Professor Raith found that competition unambiguously reduces managerial agency problems.

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<sup>27</sup> Hart, *supra* note 2; Hermalin, *supra* note 2; Sharfstein, *supra* note 2.

The empirical literature is more limited. The first strand linked competition with productivity growth, but never attributed the link to corporate governance and firm ownership.<sup>28</sup> The second strand, consisting of only one paper, linked product market competition to firm value, finding that high industry concentration, as measured by Herfindahl index, is strongly correlated with firm value.<sup>29</sup> The third strand, which is the most relevant to this paper, linked product market competition to firm-level corporate governance. In one early paper, Professors Aggarwal and Samwick found that firms operating in competitive product markets are more likely to tie their managers pay to the performance of rival firms' managers, presumably reducing the incentives to shirk.<sup>30</sup> In a second paper, Professors Guadalupe and Perez-Gonzalez showed that product market competition reduces dual-class voting premia, suggesting that product market competition reduces private benefits of control.<sup>31</sup> Finally, in a recent working paper, Professors Cremers, Nair, and Peyer found that product market competition has no effect on firms' demand for takeover defenses--unless they operate in relationships industries.<sup>32</sup> In summation, then, the state of the literature has probably changed little since 1997, when Professors Shleifer and Vishny wrote that "while [sic] we agree that product market competition

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<sup>28</sup> See, e.g., Stephen J. Nickell, 104 *Competition and Corporate Performance*, J. POL. ECON. 724 (1996); S.I. Januszweski, J. Köke, and J.K. Winter, *Product Market Competition, Corporate Governance, and Firm Performance: An Empirical Analysis for Germany*, 56 RESEARCH ECON. 299 (2002) (finding that German manufacturing firms facing high product market competition enjoy greater labor productivity growth).

<sup>29</sup> Michael A. Habib and Alexander Lungqvist, *Firm Value and Managerial Incentives: A Stochastic Frontier Approach*, 78 J. BUS. 2053 (2005).

<sup>30</sup> Rajesh K. Aggarwal and Andrew A. Samwick, *Executive Compensation, Strategic Competition, and Relative Performance Evaluation: Theory and Evidence*, 54 J. FIN. 1999 (1999).

<sup>31</sup> Maria Guadalupe & Francisco Perez-Gonzalez, *The Impact of Product Market Competition on Private Benefits of Control*, (AFA 2007 Chicago Meetings Paper, 2006) 2, 5.

<sup>32</sup> Cremers, Nair, and Peyer, *supra* note 3.

is probably the most powerful force toward economic efficiency, we are skeptical that it alone can solve the problem of corporate governance.”<sup>33</sup>

### B. *The Governance Literature*

There is also a substantial literature linking corporate governance to firm value and performance. In general, the literature divides into three veins. The first examines how background law, such as state antitakeover statutes, affects firm value.<sup>34</sup> The principal strength of this vein is that its studies generally rely on clean, exogenous sources of variation; the disadvantage is that those sources--state antitakeover laws--have very little effect on managerial entrenchment and shareholder rights.<sup>35</sup>

The second vein examines how internal takeover defenses, including poison pills, effectively staggered boards, and various individual anti-takeover provisions, affect firm value.<sup>36</sup> Although potentially proxying well for management’s ability to defeat hostile takeovers, such studies likely fail to capture the effect of shareholder rights on firm value during the ordinary course of business. Moreover, because most boards can unilaterally enact poison pills in response to hostile bids, and because the strength of many takeover defenses depends crucially upon whether they are included in a firm’s charter or in its bylaws, such studies rarely capture the variable that really matters: how easily shareholders can remove management.<sup>37</sup>

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<sup>33</sup> *Supra* note 1 at 738.

<sup>34</sup> Marianne Bertrand and Sendhil Mullainathan, *Is There Discretion in Wage Setting?: A Test Using Takeover Legislation*, 30 RAND J. ECON. 1999 (1999), Marianne Bertrand and Sendhil Mullainathan, *Enjoying the Quite Life?: Corporate Governance and Managerial Preferences*, 111 J. POL. ECON. 1043 (2003).

<sup>35</sup> Bebchuk, Cohen, and Ferrell, *supra* note 5, at 11.

<sup>36</sup> *See, e.g., id.*

<sup>37</sup> For a more detailed explanation of how firms can quickly enact poison pills in response to hostile bids, see John C. Coates IV, *Takeover Defenses in the Shadow of the Pill: A Critique of the Scientific Evidence*, 79 TEXAS L. REV. 271 (2000). For a discussion of the importance of shareholders’ ability to remove the board, see Lucian A.



The third vein of studies examines how a broader set of governance provisions affect firm value and performance. For example, in a seminal paper, Professors Gompers, Ishii, and Metrick identified a substantial correlation between firm value and an index of twenty-four governance provisions.<sup>38</sup> In a later paper, Professors Bebchuk, Cohen and Ferrell found that six of the twenty-four provisions drove most of the relationship.<sup>39</sup> More recent papers have used the Gompers and Bebchuk indices to study a variety of other firm decisions, but only one has linked governance to product market competition.<sup>40</sup>

### *C. The Blockholding Literature*

The empirical literature on blockholding also runs deep, with Professors Shleifer and Vishny first exploring the effect of blockholders on firm value about two decades ago. Since then, numerous scholars have documented how blockholders increase firm performance and valuation, generally suggesting that blockholders either discipline slacking managers or redistribute extant private benefits of control.<sup>41</sup> For example, during the early 1990s, Professors Barclay and Holderness repeatedly found that stock prices jump when block purchases are announced, suggesting that minority shareholders expect blockholders to either increase firm

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Bebchuk, John C. Coates IV, & Guhan Subramanian, *The Powerful Antitakeover Force of Staggered Boards: Theory, Evidence & Policy*, 54 STANFORD L. REV. 887 (arguing that the relevant variable is the “effective staggered board,” which cannot be removed quickly by shareholders in the face of a hostile tender offer).

<sup>38</sup> See Gompers, Ishii, and Metrick, *supra* note 5.

<sup>39</sup> See Bebchuk, Cohen, and Ferrell, *supra* note 5, at 13.

<sup>40</sup> See, e.g., Cremers, Nair, and Peyer, *supra* note 3.

<sup>41</sup> See, e.g., Wayne H. Mikkelson & Richard S. Ruback, *Takeovers and Managerial Compensation: A Discussion*, 7 J. ACCT. ECON. 233 (1985) (finding that the formation of blocks is associated with abnormal stock price increases); Michael Barclay & Clifford Holderness, *Negotiated Block Trades and Corporate Control*, 46 J. FIN. 861 (1991) and Michael Barclay & Clifford Holderness, *The Law and Large Block Trades* 35 J.L. & ECON. 265 (1992) (finding that block trades are associated with abnormal stock price increases and arguing that such increases show that benefits accrue not just to the blockholders, themselves, but also to minority shareholders).

value, generally, or to redistribute managerial rents to all shareholders.<sup>42</sup> Similarly, Professors Morck, Shleifer, and Vishny and Professors McConnell and Servais found that increases in block ownership correlate with increases in Tobin's Q--until a certain threshold, after which increases become value-destroying. Here, the likely intuition is that blockholders share private benefits of control until they become such large owners that they begin to act almost solely in their own interests--and not in those of the minority shareholders. Most of Professors Barclay, Holderness, Morck, Shleifer, and Vishny's findings focus solely on inside blockholders, however--and not the outside ones that are at the heart of this paper.

More recently, however, several authors have explored how outside blockholders effect firm performance and value. Their results have been mixed. In an early paper, Professor Mehran found no relationship between firm performance and outside blockholding, but in a more recent study, Professors Dlogosz, Fahlenbrach, Gompers, and Metrick observed a positive correlation between outside blockholding and Tobin's Q.<sup>43</sup> Professors Masulis, Wang, and Xie likewise found that outside blockholders increase shareholder returns by increasing the likelihood that a firm is targeted by an acquirer, suggesting that even if blockholders cannot directly check managerial slack, they can, at least, discipline managers by catalyzing the market for corporate control.<sup>44</sup> Again, however, none of the studies examine how the affects of

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<sup>42</sup> Michael Barclay & Clifford Holderness, *Private Benefits from Control of Public Corporations* 25 J. FIN. ECON. 371 (1989); Barclay & Holderness, *Negotiated Block Trades and Corporate Control*, *supra* note 42; Barclay & Holderness, *The Law and Large Block Trades*, *supra* note 42.

<sup>43</sup> Hamid Mehran, *Executive Compensation Structure, Ownership, and Firm Performance*, 38 J. FIN. ECON. 163 (1995); Jennifer Dlogosz et al., *Large Blocks of Stock: Prevalence, Size, and Measurement*, 12 J. CORP. FIN. 594 (2006).

<sup>44</sup> See Ronald W. Masulis, Cong Wang, and Fei Xie, *Corporate Governance and Acquirer Returns*, 62 J. FIN. 1851 (2007).

blockholders vary with the presence of other agency cost checks, such as robust product market competition and strong internal governance.

This paper thus contributes to the literature in two ways. First, it resurrects the notion that product market competition matters, limiting management's ability to extract rents. Second, and more generally, this paper introduces the idea that the affects of concentrated ownership and of strong internal governance might vary across firms, increasing when other agency cost checks, such as product market competition and inside ownership, decrease.

#### IV. DATA

Although blockholders are thought to play an important role in corporate governance, there are few sources of clean blockholder data and no datasets containing both blockholder and governance data. Consequently, in this paper, I draw data from four sources: (1) Jennifer Dlugosz, Rudiger Fahlenbrach, Paul Gompers, and Andrew Metrick's ("DFGM") blockholder database; (2) the Investor Responsibility Research Center's ("IRRC") governance database; (3) the IRRC's Director Database; and (4) Compustat's Fundamentals Annual.

Because DFGM's database covers the smallest set of firms, its collection serves as the backbone of my sample. DFGM's sample spans six years—1996 to 2001—and covers 1,996 firms, including every member of the Standard & Poor's (S&P) 500. After merging DFGM's data with the IRRC and Compustat databases, my final dataset contains 7,430 firm-year observations.

##### *A. Blockholder Data*

I obtain blockholder data from DFGM's blockholder database. DFGM secure their block ownership data from *Compact Disclosure's* CD-ROMs, which list all large shareholders required to file under the Securities Act of 1933 or the Exchange Act of 1934. Because certain portions of the Compact Disclosure data are notoriously inaccurate, DFGM follow Anderson and Lee and eliminate any data not directly derived from proxy filings.<sup>45</sup> DFGM then compare the remaining *Compact Disclosure* data to original proxy statements, resolving any disagreements in favor of the original statements.<sup>46</sup> By including footnote disclosures ignored by *Compact Disclosure*, DFGM also correct for overlapping ownership and preferred share ownership. Finally, DFGM remove any companies with multiple classes of stock or whose ownership structure is temporarily altered by a pending or recently closed merger or acquisition.<sup>47</sup>

Following the SEC's disclosure rules, I define blockholders as parties who own at least 5% of a company's outstanding common stock. Similarly, following Rule 13d-3 of the Williams Act, I define ownership in terms of voting power and treat the ownership of options convertible into stock within 60 days as equivalent to direct ownership of the underlying stock.<sup>48</sup>

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<sup>45</sup> Ronald C. Anderson and D. Scott Lee, *Ownership Studies: The Data Source Does Matter*, 32 J. QUANTITATIVE FIN. ANALYSIS 311 (1997). According to Anderson and Lee, the *Compact Disclosure* data from multiple class companies both has many errors and very difficult errors to fix.

<sup>46</sup> *See id.* at Dlugosz et al., *supra* note 44, at 605 (describing how overlaps can arise in two situations: (1) when two or more blockholders are listed in the ownership table as joint owners of the same shares; and (2) when shareholders appear in both the director and officer ownership table and the large shareholder ownership table.) Errors from preferred stock also occur in two varieties. Specifically, preferred stock may be erroneously included in *Compact Disclosure's* ownership data if a company reports preferred and common stock side by side in the same table or by listing both separate and aggregate stock ownership numbers.

<sup>47</sup> *Id.* at 599.

<sup>48</sup> Treating options convertible within 60 days as stock creates a double counting problem. Because of data limitations, however, I cannot identify these double counting instances unless they involve multiple five percent blockholders. An unreported analysis revealed no such circumstances, but likely would not have picked up creeping stock acquisitions by investment banks and other financial institutions that typically are the counterparties to such large option holdings.

By focusing solely on five percent blockholders, I mitigate the problem of capturing small-stake institutional investors who have relatively little voting power and few incentives to monitor management.<sup>49</sup> Unfortunately, this limitation also prevents me from controlling for activist investors who strategically accumulate just under five percent of a company's shares to avoid triggering the Williams Act's reporting requirement--a problem that cannot be resolved by examining proxy filings, newspapers, or other widely available information sources.

To disentangle the effects of outside and inside blockholders, I rely on DFGM's classification of blockholders as (1) officers; (2) directors; (3) affiliates; (4) ESOPs; or (5) outsiders, and define *insider blockholders* as comprising officers, directors, affiliates, and ESOPs. Because the effects of blockholding may vary according to both the number of blockholders and the fraction of shares held by blockholders, I define three blockholder variables: *anyBlockOut*, *numBlocksOut*, and *sumBlocksOut*. *anyBlockOut* indicates whether a firm has at least one five-percent outside blockholder; *numBlksOut* denotes the number of distinct outside blockholders invested in a given firm; and *sumBlksOut* totals the fraction of the company's common equity owned by outside blockholders. To control for inside blockholdings, I use similar variables pre-fixed with *In*.

Tables I, II and III present summary statistics on blockholders. Table I reveals that outside blockholders typically hold more shares than all of the inside blockholder categories, combined. Table II likewise shows that outsiders hold substantially more blocks than insiders, with outsiders averaging about ten times more blockholdings than officers and about fifteen times

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<sup>49</sup> See, e.g., Andrei Shleifer & Robert W. Vishny, *Large Shareholders and Corporate Control*, 94 J. POL. ECON. 461 (1986).

more than directors or affiliates. Taken together, however, Tables I and II also imply that the average inside blockholder owns substantially more of his or her company than the average outside blockholder--a finding that is robust to the elimination of large, owner-manager inside blockholders.<sup>50</sup>

**Table I: Blockholding Fractions by Type of Blockholder**

<i>Blockholding Category</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Outside	7430	16.834	15.509	0	98.5
Affiliates	7430	2.243	8.242	0	91.3
Directors	7430	1.282	5.172	0	83.7
Officers	7430	2.530	7.409	0	67.2
ESOP	7430	1.067	3.764	0	51.8

**Table II: Number of Blockholders by Type of Blockholder**

<i>Blockholding Category</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Outside	7430	1.83674	1.52314	0	10
Affiliates	7430	0.13419	0.40345	0	4
Directors	7430	0.1105	0.37421	0	4
Officers	7430	0.1891	0.47403	0	4
ESOP	7430	0.09973	0.31285	0	2

Table III reveals that blockholders are very common, with more than 85 percent of firm-year observations having at least one five percent blockholder. Table III also reveals, however, that very few firms have more than five blockholders, and that almost 65% of firm-year observations

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<sup>50</sup> In an unreported analysis, I found that this pattern was driven by a large number of insiders with high, but not very high shareholdings; in general, the distribution of insider blockholdings had a heavier right tail than the distribution of outsider blockholdings, but the individual blockholding finding is not driven by insiders who control more than 50 percent of their companies' shares.

have only one, two, or three blockholders, perhaps suggesting that once a critical mass of large shareholders obtains, the returns to blockholding are decreasing in the number of blockholders.

**Table III: Total Number of Blockholders**

<i>Number of Blocks</i>	<i>Freq.</i>	<i>Percent</i>	<i>Cum.</i>
0	930	12.52	12.52
1	1,495	20.12	32.64
2	1,822	24.52	57.16
3	1,445	19.45	76.61
4	980	13.19	89.8
5	477	6.42	96.22
6	179	2.41	98.63
7	73	0.98	99.61
8	19	0.26	99.87
9	7	0.09	99.96
10	1	0.01	99.97
11	2	0.03	100
Total	7,430	100	

### *B. Competition Data*

My primary measure of product market competition is the Herfindhal-Hirschman index (“Herfindhal Index”, or “HHI”).<sup>51</sup> The index is defined as

$$H_{jt} = \sum_{i=1}^{N_j} H_{ijt}^2,$$

where  $H_{ijt}$  denotes firm  $i$ 's market share in industry  $j$  in year  $t$ . Because market definition has long been a bugbear of the academic antitrust literatures, I follow Cremers et al. and define a firm's market share as the ratio of its sales to the sales of all COMPUTSTAT firms sharing its

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<sup>51</sup>Xavier Giroud & Holger M. Mueller, *Corporate Governance, Industry Competition, and Equity Prices* (New York University, mimeograph, 2007). See also JEAN TIROLE, *THE THEORY OF INDUSTRIAL ORGANIZATION* (1988), 221-223.

three-digit SIC Code.<sup>52</sup> Because three-digit SIC codes may define markets too finely or too coarsely, I also compute Herfindhal Indices using two and four-digit SIC codes.

To check for misclassification, I plot the empirical distribution of each Herfindhal Index. Because every plot reveals a large spike near its right endpoint, I drop the top one percent of firm-year observations under each Herfindahl definition. I also conduct robustness analyses by constructing dummy variables that merely indicate whether a firm has an above or below median Herfindahl Index. By treating large sets of firms equally, this classification should be robust to misclassification near both the right and left endpoints.

Finally, unlike several previous analyses, I do not proxy for industry competition with net profit margin (“NPM”). The reason is simple: net profit margin not only captures a firm’s ability to enjoy supra-competitive rents (i.e. potential net profit margin), but also management’s ability to extract those rents and return them to shareholders. Consequently, because I cannot control for managerial ability, net profit margin is likely endogenous, capturing not only product market competition, but also a host of factors, such as managerial ability and rent-seeking, that are functions of unobservable covariates incorporated into firm value and performance.

### *C. Internal Governance Data*

To control for managerial entrenchment, I collect several governance variables from the IRRC’s Governance databases. First, following Gompers, Ishii, and Metrick, I proxy for managerial entrenchment by constructing a Governance Index, or G-index, that sums the number

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<sup>52</sup> Cremers, Nair, and Peyer, *surpa* note 3.



of certain shareholder power restrictions in firms' charters and bylaws.<sup>53</sup> I also retrieve Professor Bebchuk's entrenchment index, which sums a subset of the provisions included in the G-index.

Second, to directly control for managers' abilities to defeat takeovers, I construct an indicator variable, *esb*, that is set to equal one whenever a firm has both a poison pill and a staggered board.<sup>54</sup> To capture shareholders' power to check the board during the ordinary course of business, I also collect indicators of whether a firm: limits shareholders' ability to call special meetings; maintains dual-class stock; or limits shareholders' ability to act by written consent. Because the IRRC's governance database was updated only in 2002, 2004, and 2006, I follow Cremers, Nair, and Peyer<sup>55</sup> and fill in missing values with those of the last available year. When no data is available for a governance variable, I drop the firm-year observation. This reduces my sample by 219 observations.

Finally, to proxy for the board's ability to monitor management (or, alternatively, management's ability to influence the board), I collect a series of director-specific controls from the IRRC's Directors database, including director tenure, committee, and stock holdings. Additionally, for each firm-year observation, I construct the variable *fracIndep*, which I define as

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<sup>53</sup> Gompers, Ishii, & Metrick, *supra* note 5. Specifically, the G-index for a given firm is set to equal the number of restrictions in a set of 24 that firm includes in its charter or bylaws.

<sup>54</sup> If a poison pill can be quickly and unilaterally enacted by the board, then the presence of a staggered board may be very significant. As noted in Lucian A. Bebchuk, John C. Coates IV, & Guhan Subramanian, *supra* Note 38, if a company has both a staggered board and a poison pill, a company can effectively prevent a hostile acquirer from gaining control of a company for more than a year—which effectively chills takeovers and reduces firm value.

<sup>55</sup> Cremers, Nair, and Peyer, *supra* note 3.

the number of independent directors serving at a company at the end of a given year divided by the total number of directors serving at that company at the end of that year.<sup>56</sup>

#### *D. Cash Flow, Capital Structure, and Internal Rent-Seeking*

To control for the agency costs of cash flow, I collect accounting variables from COMPUSTAT. To proxy for management's ability to access cash, I construct the variable *cashToAssets*, which I define as the ratio of a firm's balance sheet cash and equivalents to total assets. I also construct *leverage*, which I define as the ratio of long term debt to total assets. Finally, I define *divYld* as the ratio of total dividends paid to each share of common stock during each calendar year to the closing price of common stock at the end of that calendar year.

To measure potential rent-seeking and inefficiencies, I construct three additional variables from the COMPUSTAT data. First, I construct *empire1*, which I define as the ratio of capital expenditures to total assets. Although not directly capturing managerial rent seeking, *empire1* provides a coarse indicator of when managers might be able to invest in empire building projects. Similarly, I define *empire2* as the ratio of research and development expenditures over total assets. Finally, following the finance literature, I define *quiet* as the ratio of sales, general, and administrative expenses to total sales.<sup>57</sup> Here, the idea is to define a variable that captures management's ability to shirk and live the quiet life.

#### *E. Firm Performance, Valuation, and Characteristics*

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<sup>56</sup> This definition allows me to avoid double-counting directors when elections are staggered, but it also ignores directors who serve for less than one year. Presumably such briefly tenured directors have little influence over board decisions.

<sup>57</sup> See Marianne Bertrand and Sendhil Mullainathan, *supra* note 35, at 1047, 1067 (rejecting the proposition that entrenched CEOs expand their businesses to build empires and finding instead that CEOs in industries that are relatively protected from takeovers are unlikely to open or close plants).

I capture firm performance with three variables: *ROA*, or return on assets; *ROE*, or return on equity; and *appreciation*, the annual percentage increase in a firm's stock price. To measure firm valuation, I approximate Tobin's Q (*Q*) as the ratio a firm's enterprise value over total assets. I also define Relative Tobin's Q (*relQ*) as the ratio of a firm's Tobin's Q over the average Tobin's Q value for all firms in its S&P industry group.

Finally, I collect from COMPUSTAT several additional firm-level covariates that might influence firm performance or valuation, including log of total assets, to proxy for firm size, and the ratio of daily trading volume over common shares outstanding, to capture market liquidity. I also construct the variable *salesGrowth*, which I define as the annual percentage increase in a firm's sales. To ensure my data's comparability, I drop all firm-year observations in which a collected variable is missing, reducing my sample by 456 firm-year observations.

Appendix Table IV presents summary statistics. Column 1 lists statistics for all firms; Column 2 lists firms with below-median Herfindahl Indices; and Column 3 lists firms with above-median Herfindahl indices. Splitting the sample this way shows that firms in more competitive industries have fewer blockholders across all types and stronger shareholder rights, as measured by lower G-Indices. Firms in more competitive industries also have lower returns on equity and assets, likely reflecting the lower potential profits available to such firms. Perhaps surprisingly, firms in competitive industries have higher mean Tobin's Q values. Leverage ratios are similar across all classes of firms, but the ratio of cash to assets is much higher in firms operating in competitive industries--a surprising finding given that firms operating in less competitive industries have higher returns on equity and assets and presumably have more opportunities to generate cash.

Appendix Table V shows the robustness of the summary statistics across definitions of Herfindahl Index. The means are generally stable across three and four-digit indices, but sometimes vary substantially when I compute Herfindahl Indices using two-digit SIC Codes. For example, the mean lagged stock return for competitive firms drops substantially, with several especially high performing firms shifting from the *Competitive* grouping to the *Concentrated* grouping. The upshot is that in most of the remaining analyses, I merely divide firms according to whether they have above or below median Herfindahl Indices, reducing the risk that the instability will feed into my results.<sup>58</sup>

## V. HYPOTHESES AND RESULTS

If product market competition reduces managerial slack, then blockholding and strong internal governance should have a smaller impact on the performance and valuation of firms operating in concentrated product markets. Likewise, if blockholding and internal governance are not free--for example, because there are a limited number of potential blockholders, or because strong shareholder rights come at the potential cost of reduced managerial discretion -- then, all else equal, blockholders and strong internal governance provisions should appear more frequently in the firms most susceptible to agency costs.

I thus test two hypotheses in this section. First, I test whether, contingent on a given level of firm performance, blockholders and strong internal governance appear more frequently in firms operating in weak product markets. Second, I test whether the effects of concentrated ownership

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<sup>58</sup> By making the concentration measure more coarse, instability across index definitions will only occur when a definitional change causes an industry to jump across the median threshold--something relatively unlikely to significantly change my results.

and strong internal governance on firm performance and valuation are larger in concentrated product markets than in competitive ones.

My results are mixed. In my univariate analysis, I find strong evidence that blockholders substitute for product market competition, but internal governance appears to compliment--not substitute for--product market competition. Additionally, in my univariate analyses, I find substantial evidence that blockholders most increase firm value when product markets are most concentrated, but only ambiguous evidence that strong internal governance increases firm valuation--regardless of product market competition level.

In my multivariate analysis, however, my results differ. Both concentrated ownership and strong internal governance generally lower firm valuation, with increases occurring only in concentrated product markets. Moreover, the overall salubrious affects of strong internal governance and concentrated ownership found in my univariate analyses appear to be driven entirely by firms operating in concentrated product markets, suggesting that my univariate analyses are too coarse. Finally, I find little evidence that blockholders and internal governance substitute for each other, perhaps indicating a complimentary relationship in which strong internal governance reduces blockholders' monitoring costs.

#### A. *Univariate Analyses*

##### 1. Internal Governance

###### a. Performance and Valuation

To test whether strong shareholder rights are more *valuable* in concentrated industries, I first partition my sample according to two governance measures: Gompers, Ishii, and Metrick's G-

Index and Bebchuk, Cohen, and Ferrell's E-Index.<sup>59</sup> I then partition each governance class according to 3-digit Hirfindahl index, so that every firm in my original sample is classified as (i) enjoying above or below median internal governance; and (ii) conditional upon governance measure, facing above or below median product market competition. Finally, to capture the effects of internal governance on firm performance and valuation, I examine each governance-competition class's mean ROA, ROE, Tobin's Q, and Relative Tobin's Q.

Table VI presents the results. Across all industry concentrations, increases in shareholder rights are correlated with significantly higher values of Tobin's Q and Relative Tobin's Q. Moreover, increases in shareholder rights are correlated with greater marginal increases in firm value in concentrated industries, suggesting that internal governance is most important when managers are least checked by external product market competition.<sup>60</sup> Similarly, increases in concentration have a larger effect on firm valuation when shareholder rights are strong, suggesting that internal governance might check agency costs when product markets are weak.

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<sup>59</sup> Because results largely overlap, I report only my findings for the G-Index. For a detailed description of the E-Index, which, as a subset of the G-Index, effectively tracks the G-Index, *see* Bebchuk, Cohen, and Ferrell, *supra* note 5.

<sup>60</sup> These results are broadly consistent with those of Gompers, Ishii, and Metrick, *supra* note 5 and Cremers, Nair, and Peyer, *supra* note 3.

**Table VI Firm Value By Governance-Competition Quadrant**

Panel A: Firm Value By Governance-Competition Quadrant			
<i>ROA</i>			
<i>G-Index</i>	<b>Concentrated</b>	<b>Competitive</b>	<i>Difference</i>
<b>Weak Rights</b>	.0403 (.1094)	.0531 (.0704)	0.013 (0.001)**
<b>Strong Rights</b>	.0143 (.3312)	.0469 (.1253)	0.033 (0.000)**
<i>Difference</i>	0.026 (0.010)**	0.006 (0.127)	

  

<i>ROE</i>			
<i>G-Index</i>	<b>Concentrated</b>	<b>Competitive</b>	<i>Difference</i>
<b>Weak Rights</b>	.1614 (2.7658)	.1057 (.9647)	-0.056 (0.510)
<b>Strong Rights</b>	.0246 (.8502)	.1531 (.7217)	0.128 (0.000)**
<i>Difference</i>	0.137 (0.077)*	-0.047 (0.150)	

  

<i>Tobin's Q</i>			
<i>G-Index</i>	<b>Concentrated</b>	<b>Competitive</b>	<i>Difference</i>
<b>Weak Rights</b>	2.4604 (2.0141)	2.1912 (1.1308)	-0.759 (0.000)**
<b>Strong Rights</b>	3.141 (2.8618)	2.3821 (1.429)	-0.269 (0.000)**
<i>Difference</i>	0.681 (0.000)**	0.191 (0.000)**	

  

<i>Relative Tobin's Q</i>			
<i>G-Index</i>	<b>Concentrated</b>	<b>Competitive</b>	<i>Difference</i>
<b>Weak Rights</b>	.7942 (.4699)	.8068 (.4069)	-0.013 (0.490)
<b>Strong Rights</b>	.8411 (.5855)	.7946 (.6302)	0.046 (0.042)*
<i>Difference</i>	-0.047 (0.027)*	0.012 (0.571)	

The performance variables follow a similar, although less pronounced, pattern. For example, increases in shareholder rights correlate with increases in ROE, and the incremental increases are larger when product market competition is weakest. For ROA, however, the pattern differs; weak shareholder rights correlate with higher firm performance across both competition levels, and the incremental return to strong shareholder rights is most negative in concentrated markets, creating a puzzle and suggesting that my performance results are not robust.

#### b. Substitution

To examine whether shareholder rights substitute for product market competition, I performed a similar univariate analysis, replacing the blockholding variables with the G-Index. First, to control for performance and valuation, I partitioned firms according to four performance

and valuation measures: ROA, ROE, Tobin's Q, and Relative Tobin's Q.<sup>61</sup> Second, to distinguish between firms facing high and low product market competition, I divided each performance or valuation class into high and low industry concentration groups. Finally, for each performance-competition class, I calculated the mean G-Index, hypothesizing that conditional on firm value or performance class, the mean G-Indices would be highest when product market competition was weakest.

Table VII presents the results, strongly rejecting the substitution hypothesis. Across every performance and valuation measure, firms in concentrated industries have higher mean G-Indices, or weaker shareholder rights. Moreover, six of the differences are statistically significant at the .05 level, and all eight are significant at the .1 level, strongly rejecting the null hypothesis that strong internal governance, conditional on firm performance or valuation level, substitutes for product market. Again, my findings are broadly consistent with those of Cremers, Nair, and Peyer, who observe that takeover defenses are no more common in firms facing little product market competition--unless they operate in relationship industries.<sup>62</sup>

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<sup>61</sup> It is worth noting the importance of partitioning the firms according to valuation or performance first. Specifically, to check if product market substitutes for internal governance, and vice versa, we must impose some equalizing restriction. I impose a condition that roughly equalizes ROA, ROE, Tobin's Q, and Relative Tobin's Q, so that my substitution affects are conditional upon firm value. A more complex analysis might categorize firms according to more variables.

<sup>62</sup> Cremers, Nair, and Peyer, *supra* note 3.



**Table VII: Governance as a Substitute for Product Market Competition (Mean G-Index)**

<i>G-Index</i>			<i>G-Index</i>				
	<b>High ROA</b>	<b>Low ROA</b>	<i>Difference</i>		<b>High ROE</b>	<b>Loe ROE</b>	<i>Difference</i>
<b>Concentrated</b>	9.381 (2.792)	9.354 (2.910)	0.027 (0.810)	<b>Concentrated</b>	9.459 (2.734)	9.297 (2.941)	0.162 (0.144)
<b>Competitive</b>	8.975 (2.772)	8.916 (2.752)	0.059 (0.586)	<b>Competitive</b>	9.256 (2.817)	8.614 (2.689)	0.643 (0.000)**
<i>Difference</i>	0.406 (0.000)**	0.438 (0.000)**		<i>Difference</i>	0.202 (0.062)*	0.683 (0.000)**	

  

<i>G-Index</i>			<i>G-Index</i>				
	<b>High Q</b>	<b>Low Q</b>	<i>Difference</i>		<b>High Rel. Q</b>	<b>Low Rel. Q</b>	<i>Difference</i>
<b>Concentrated</b>	9.268 (2.773)	9.519 (2.903)	-0.251 (0.025)*	<b>Concentrated</b>	9.411 (2.853)	9.371 (2.866)	0.041 (0.718)
<b>Competitive</b>	8.497 (2.715)	9.305 (2.768)	-2.759 (0.000)**	<b>Competitive</b>	9.094 (2.785)	8.715 (2.708)	0.379 (0.000)**
<i>Difference</i>	0.771 (0.000)**	0.214 (0.055)*		<i>Difference</i>	0.317 (0.004)**	0.656 (0.000)**	

High and low competition are defined according to Hirschfeld index computed at the four-digit SIC level, with the high cell capturing all firm-years in the bottom half of Hirschfeld indices. Conditional on industry concentration, firms are then divided according to top or bottom half of the relevant performance measure. Reported numbers for each quadrant are mean fraction of common shares owned by outside blockholders and standard deviation of the fraction of common shares owned by outside blockholders.

When taken together, however, the results of Tables VI and VII might not reject the hypothesis that shareholder rights and product market competition substitute for each other. Specifically, if an omitted variable both substitutes for strong internal governance and complements industry concentration, then Table VII's apparent rejection of the substitution hypothesis might be driven by the omitted variable. Because agency cost theory predicts that managers will have the most opportunity to extract rents when product market competition is weak, so that blockholders will have the most opportunity--and the most incentive--to add value when product market competition is weak, blockholding might be just such an omitted variable. Consequently, in the next sub-section, I focus my attention on the interactions between blockholding, industry concentration, firm performance, and valuation, examining whether the omitted variable of blockholding might drive the results presented in Tables VI and VII.

## 2. Blockholders

Table VIII presents performance and valuation results; Table IX presents substitution results. Panel A of Table IX shows that across every performance and accounting measure, the mean shareholdings of outside blockholders are higher in firms operating in concentrated industries. In six of the eight performance-industry concentration cells, the differences in blockholding across product market competition levels is significant at a .05 level, suggesting that blockholding substitutes for product market competition and potentially providing an alternative explanation for the results presented in Tables VI and VII.

Panel B shows that the results are robust to a second blockholding measure: the number of outside blockholders. Specifically, across every measure of firm performance and valuation, the mean number of outside blockholders is higher in firms operating in concentrated industries. In six of the eight performance-industry competition cells, the differences are statistically significant, again with the differences largest among the firms in the lowest performance and valuation cells. Moreover, as I found in an unreported analysis, Table IX's results are robust to several definitions of product market competition, including Herfindahl indices based on four-digit SIC codes.

Table VIII shows that concentrated ownership is positively correlated with higher firm performance and valuation measures, but not with industry concentration. For example, in six of the eight charts presented in Table VIII, blockholders are significantly more likely, conditional upon industry concentration, to invest in low profit or low performance firms. Because such firms are also unusually likely to have weak shareholder rights, Table VIII again suggests that Table VI and Table VII's results might be driven by the omitted blockholding variable. Moreover, because the two cells in which blockholding does not appear to substitute for strong

governance are also associated with strong product market competition, Table VIII's results are consistent with the notion that strong shareholder rights substitute for blockholder monitoring. Along similar lines, because the differences in mean blockholding across profit and performance levels generally are largest for firms operating in weak product markets, Table VIII again suggests that blockholder monitoring might matter the most when two conditions are met: product market competition is weak and shareholder rights are low.

**Table VIII: Firm Value By Ownership-Competition Quadrant (Sum of Blockholdings)**

Panel A: Firm Value By Ownership-Competition Quadrant (Sum of Blockholdings)

<i>ROA</i>			
<i>Blockholdings</i>	<b>Concentrated</b>	<b>Competitive</b>	<i>Difference</i>
<b>Diffuse</b>	.0336 (.1331)	.0442 (.0894)	-0.011 (0.018)*
<b>Concentrated</b>	.0201 (.3339)	.0537 (.1187)	-0.034 (0.001)**
<i>Difference</i>	0.014 (0.176)	0.009 (0.021)*	

<i>Tobin's Q</i>			
<i>Blockholdings</i>	<b>Concentrated</b>	<b>Competitive</b>	<i>Difference</i>
<b>Diffuse</b>	2.7744 (2.5323)	2.4652 (1.5156)	0.309 (0.000)**
<b>Concentrated</b>	2.8924 (2.5414)	2.1211 (1.0093)	0.771 (0.000)**
<i>Difference</i>	0.118 (0.238)	0.344 (0.000)**	

<i>ROE</i>			
<i>Blockholdings</i>	<b>Concentrated</b>	<b>Competitive</b>	<i>Difference</i>
<b>Diffuse</b>	.0082 (1.3321)	.1117 (.6754)	-0.103 (0.013)*
<b>Concentrated</b>	.1457 (2.1708)	.1672 (1.4334)	-0.022 (0.762)
<i>Difference</i>	0.137 (0.052)	0.056 (0.208)	

<i>Relative Tobin's Q</i>			
<i>Blockholdings</i>	<b>Concentrated</b>	<b>Competitive</b>	<i>Difference</i>
<b>Diffuse</b>	.7441 (.5775)	.7561 (.4627)	-0.015 (0.463)
<b>Concentrated</b>	.8337 (.4964)	.9032 (.6023)	0.030 (0.168)
<i>Difference</i>	0.087 (0.000)**	0.146 (0.000)**	

Panel B: Firm Value By Ownership-Competition Quadrant (Number of Blockholders)

<i>ROA</i>			
<i>Blockholdings</i>	<b>Concentrated</b>	<b>Competitive</b>	<i>Difference</i>
<b>Diffuse</b>	.0265 (.2889)	.0529 (.1223)	0.026 (0.000)**
<b>Concentrated</b>	.028 (.1281)	.039 (.0878)	0.011 (0.049)*
<i>Difference</i>	0.001 (0.893)	-0.014 (0.004)**	

<i>Tobin's Q</i>			
<i>Blockholdings</i>	<b>Concentrated</b>	<b>Competitive</b>	<i>Difference</i>
<b>Diffuse</b>	2.8371 (2.5319)	2.4003 (1.4309)	-0.437 (0.000)**
<b>Concentrated</b>	2.8335 (2.5249)	2.0375 (.9649)	-0.796 (0.000)**
<i>Difference</i>	-0.004 (0.974)	-0.363 (0.000)**	

<i>ROE</i>			
<i>Blockholdings</i>	<b>Concentrated</b>	<b>Competitive</b>	<i>Difference</i>
<b>Diffuse</b>	.0336 (.1331)	.0442 (.0894)	0.098 (0.043)*
<b>Concentrated</b>	.0965 (2.0404)	.1613 (1.2351)	0.011 (0.049)*
<i>Difference</i>	0.052 (0.284)	0.085 (0.275)	

<i>Relative Tobin's Q</i>			
<i>Blockholdings</i>	<b>Concentrated</b>	<b>Competitive</b>	<i>Difference</i>
<b>Diffuse</b>	.7441 (.5775)	.7561 (.4627)	0.012 (0.562)
<b>Concentrated</b>	.8205 (.5251)	.8762 (.5691)	0.056 (0.002)**
<i>Difference</i>	0.097 (0.000)**	0.167 (0.000)**	

### 3. Correlation Analysis

Because the tabular analyses presented in Tables VI-IX capture only two dimensions of variation, in Tables X and XI, I present the correlation coefficients between the blockholding variables, industry concentration, and shareholder rights index. To control for differences in firm valuation and performance, in Table XI, I present conditional correlation coefficients, dividing

firms according to quintile of ROA, ROE, Tobin's Q, and relative Tobin's Q. To reduce the likelihood that my results are driven by a few especially high or low-performing firms, I drop the highest and lowest one percent of firms in each quintile.

**Table X: Correlation Coefficients**

	Sum Outside Blockholdings	Number Outside Blockholders	HHI	G-Index
Sum Outside Blockholdings	1.00			
Number Outside Blockholders	0.81	1.00		
HHI	0.10	0.10	1.00	
G-Index	-0.12	-0.04	0.02	1.00

In both tables, the correlation coefficients between the blockholding variables and the G-Index are negative, strongly suggesting that blockholders substitute for internal governance. Moreover, because the correlations between the blockholding variables and industry concentration are so much stronger than the correlation between the G-Index and industry concentration, the negative correlation suggests that firms the lack of shareholder protections in non-competitive product markets may be driven by blockholder discipline.

Both the performance and valuation panels create a puzzle, though: why do firms in the highest performance and valuation quintiles systematically follow a different blockholding pattern than firms in other quintiles? To examine whether the difference might be related to an observable covariate, I divided my sample into eight groups: four containing the firms in the highest quintiles of the performance and valuation measures, and four containing the firms in the lowest four quintiles of the performance and valuation measures. I then tested whether the means of several key covariates differed significantly between the groups, speculating that the differences in blockholding might be related to any variables that differed significantly.

Table XII presents the results. In general, the covariate means differ significantly across all of the performance and valuation measures, suggesting that firms in the highest performance and valuation quintiles systematically differ from the other firms in my sample. Unsurprisingly, stock returns and sales growth are significantly higher for quintile five firms across all performance and valuation measures. Notably, however, the cash flow variables indicate the quintile five firms' performance is not due to cash flow discipline, with dividend yields and leverage substantially lower in quintile five firms than in firms with less impressive valuation or performance. Similarly, the ratios of capital expenditures and research and development expenses to total assets are significantly higher for quintile five firms, suggesting that expenditures traditionally associated with empire building do not lower firm performance or valuation. Moreover, quintile five managers are, on average, monitored by fewer independent directors, suggesting that such empire building expenditures are likely checked by few outside monitors. One possible explanation might be that growth requires substantial capital expenditures and managerial discretion, although such an explanation seems suspect for firms with high ROAs.

Consequently, the root of quintile five firms' superior valuations, profitability, and stock growth is somewhat puzzling. Rapid growth might be the primary driver, but from an agency cost perspective, quintile five firms appear ripe for managerial rent-seeking. Perhaps the firms are so successful because their managers can--but do not--extract rents from the corporate kitty.

### *B. Multivariate Analyses*

As discussed in Section II, strong internal governance and product market competition are only two of many factors that affect the magnitude of managerial rent-seeking. Consequently, in

this sub-section, I estimate a series of multivariate models that allow me to control for cash flow, inside ownership, and unobservable, firm-specific effects, such as managerial quality.

I begin my analysis by modifying my two original hypotheses. Specifically, noting that blockholders can discipline wayward managers and that this discipline might matter most when other agency costs checks are weakest, I hypothesize that:

- All else equal, concentrated ownership will positively correlate with firm performance and value.
- All else equal, the positive impact of concentrated ownership on firm valuation and performance will increase as product market competition weakens; shareholder rights disappear; inside ownership diminishes; dividend yields decrease; leverage is lowered; and balance sheet cash increases.

Second, turning to internal governance, I hypothesize that:

- All else equal, strong internal governance will positively correlate with firm performance and value.
- All else equal, the positive impact of strong internal governance on firm valuation and performance will increase as product market competition weakens; shareholder rights disappear; inside ownership diminishes; dividend yields decrease; leverage is lowered; and balance sheet cash increases.

All four hypotheses are amenable to standard regression analyses.

## 1. The Model, Definitions, and Other Preliminaries

To capture the two hypotheses, I first use panel data to estimate several variations of the following model:

$$\begin{aligned}
 y_{ijt} = & \alpha + \alpha_i + \alpha_j + \beta_1 \text{Blockholders}_{it} + \beta_2 \text{HHI}_{jt} + \beta_3 \text{GIndex}_{it} \\
 & + \beta_4 \text{Blockholders}_{it} \times \text{High HHI}_{jt} + \beta_5 \text{Blockholders}_{it} \times \text{High GIndex}_{it} \\
 & + \beta_6 \text{High GIndex}_{it} \times \text{High HHI}_{jt} \\
 & + \beta_7 \text{Blockholders}_{it} \times \text{High GIndex}_{it} \times \text{High HHI}_{jt} + \gamma \text{Inside Ownership}_{it} \\
 & + \theta \text{Cash Flow}_{it} + \varphi \text{Firm Characteristics}_{it}
 \end{aligned}$$

where  $i$  indexes firms,  $j$  indexes industries,  $t$  indexes time, so that  $y_{ijt}$  represents the performance or valuation variable of interest for firm  $i$  in industry  $j$  at time  $t$ ; *Blockholders* represents the number of blockholders or the sum of blockholdings for firm  $i$  at time  $t$ ; *Inside Ownership* <sub>$it$</sub>  represents the fraction of common stock owned by insiders of firm  $i$  at time  $t$ ; *Cash Flow* <sub>$it$</sub>  represents a vector of cash flow variables for firm  $i$  at time  $t$ , including the ratio of cash to assets, leverage, dividend yield; and *Firm Characteristics* <sub>$it$</sub>  represents a vector of firm- $i$ -specific control variables observed at time  $t$ . *Concentrated HHI* <sub>$jt$</sub>  indicates whether industry  $j$  has above or below median concentration at time  $t$  and *High GIndex* <sub>$it$</sub>  denotes whether firm  $i$  has above or below median shareholder rights at time  $t$ . The vector of control variables includes sales growth, lagged stock price appreciation, log of assets, and liquidity (the ratio of common shares outstanding over average daily trading volume).

The total effect of blockholding on firm value or performance can thus be computed as



so that  $\beta_3$  measures how the effects of blockholding vary when product market competition is weak;  $\beta_4$  measures how the effects of blockholding vary when shareholder rights are weak; and  $\beta_5$  measures how the effects blockholding vary when both product market competition are shareholder rights are weak.

Similarly, the total effect of weak shareholder rights is given by

$$\begin{aligned} & \beta_1 + \beta_2 GIndex_{it} + \beta_3 GIndex_{it} \times LowBlocks_{it} + \beta_4 GIndex_{it} \times Concentrated\ HHI_{jt} \\ & + \beta_5 GIndex_{it} \times Concentrated\ HHI_{jt} \times LowBlocks_{it} + \beta_6 CashFlow_{it} \\ & + \beta_7 InsideOwnership_{it} + \beta_8 Controls_{ijt} \end{aligned}$$

where  $\beta_3$  measures how the effects of shareholders rights vary when there are few blockholders;  $\beta_4$  measures how the effects of shareholder rights vary when product market competition is weak; and  $\beta_5$  measures how much the effects shareholder rights vary when there are few blockholders and product market competition is weak.

Under the above hypotheses, we would thus expect  $\beta_2, \beta_3, \beta_4, \beta_5 > 0$  in the blockholder equation and  $\beta_2, \beta_3, \beta_4, \beta_5 > 0$  in the governance equation. We would also expect positive estimated coefficients on *insideOwnership*, *dividendYield*, and *leverage* and a negative estimated coefficient on *cashToAssets*. Table XIII presents a summary.

**Table XIII: Predicted Signs of Coefficients in Firm Performance**

<i>Variable</i>	<i>Predicted Sign</i>
Sum. Blocks	+
HHI	+
G-Index	-
Sum. Blocks x Concentrated	+
Sum. Blocks x Weak Governance	+
Weak Governance x Concentrated	-
Sum. Blocks x Weak Governance x Concentrated	+
Inside Ownership	+
Dividend Yield	+
Leverage	+

## 2. Results

Tables XIV and XV present results for the blockholding regressions; Tables XVI and XVII present the results for the governance regressions. In Tables XIV and XVI, the blockholding variable is the fraction of common equity held by outside blockholders. In Tables XV and XVII, the blockholding variable is the total number of five percent blockholders. Panel A of all tables uses ROA as the dependent variable, proxying for firm performance, and Panel B uses Tobin's Q to proxy for firm valuation.

### a. Blockholders and Industry Concentration

Across all of the blockholder specifications, the coefficient on the blockholding variable is negative, and, in all but three specifications, the coefficient on *Blockholders x Concentrated HHI<sub>jt</sub>* is positive and statistically significant, suggesting that the linkage between blockholding and improved firm valuation and performance is driven by the effects of blockholders on firms operating in concentrated industries. The magnitude of *Blockholders x Concentrated HHI<sub>jt</sub>*

coefficient is very small, however, indicating that in a competitive industry an additional blockholder or a ten percent increase in blockholding will raise ROA by only a tenth of a percentage point. Relative to the coefficient on *Blockholders*, however, the coefficient on the interaction is large; in many of the models, it takes only one or two five percent blockholders to reverse the effects of the negative coefficient on number or sum of blockholders variable.

Perhaps surprisingly, the coefficients on the interactions between blockholding and internal governance vary in sign and are never significant, providing little evidence that blockholding has a larger impact on firm value or performance when internal governance is weak. One potential explanation is that the interaction between blockholders and internal governance comprises two effects. First, when internal governance is weak, the potential for managerial slack is unusually high, so that blockholders may have a large effect on agency costs. Second, when internal governance is weak, monitoring may be unusually costly, potentially offsetting any increased benefits. The upshot is an ambiguous interaction between blockholding and internal governance strength--and a puzzle to be solved by later researchers.

#### b. Governance and Industry Concentration

The coefficients in the governance regressions follow a similar pattern. In almost every specification, the coefficient on the interaction between internal governance and industry concentration is negative, but it is only statistically significant in the valuation regressions. Moreover, although the magnitudes of the coefficients on the interaction terms are again small in an absolute sense, they are again large relative to the magnitudes of the coefficients on *Gindex*. This indicates that the salubrious effects of strong governance documented in my univariate analyses are not general; instead, they are limited to firms operating in concentrated industries.

Finally, in both the governance and blockholder regressions, the coefficients on the interactions between the blockholding and governance variables often switch sign, and are rarely significant, providing little evidence for the proposition that blockholders substitute for weak internal governance. At first blush, this appears to be a puzzle; one possible explanation, as noted above, is that strong governance has two effects on blockholders. First, it decreases the returns to monitoring, lowering the value added by extra blockholders. Second, it decreases the costs of monitoring, increasing the likelihood that an extra blockholder will actually monitor management and producing a net effect of ambiguous sign. Unfortunately, because of data and methodological limitations, I was unable to separate out these two effects, so that the sign changes remain a puzzle.

#### c. Other Puzzles

Several other estimated coefficients are puzzling. First, across most of the regressions, the estimated coefficients on dividend yield are negative and the estimated coefficients on cash to assets are positive--a finding seemingly inconsistent with Jensen and Meckling's agency cost theory of cash flows. One possible explanation is that other agency cost checks, such as blockholders and product market competition, more than eliminate the agency costs of cash flow. Supporting this explanation is an unreported finding that firms with high cash flows and low dividend yields are more likely to attract blockholders.<sup>63</sup> Another possible explanation is mechanical. Specifically, suppose that firms with high dividend yields are slow-growing, industrial firms that possess relatively few intangible assets, so that their balance sheets more

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<sup>63</sup> Specifically, the mean number of blockholders is higher in both firms with above median ratios of cash to assets and firms with below median dividend. The difference in means was not statistically significant at a .05 or .1 level, though.

fully reflect the economic values of their assets. Further suppose that such firms also generate substantial free cash flow and keep much of that cash on hand to service debt. The upshot, then, would be negative correlations between dividend yield and performance and valuation, and positive correlations between *cashToAssets* and performance and valuation--regardless of economic performance.

The negative coefficient estimates on *salesgrowth* also present a puzzle. Again, however, the coefficients' signs may be driven by accounting definitions. Suppose, for example, that firms with high sales growth are typically start-ups with limited earnings, few tangible assets, and significant intellectual property investments. Then, under standard accounting definitions, we would expect to estimate negative coefficients on ROA, but large positive coefficients on Tobin's Q--a pattern broadly consistent with my regression results.

Finally, it is unclear why the estimated coefficients on the inside ownership variables are almost always negative. In general, the Berle-Means theory strongly predicts that inside ownership, which reduces the separation between ownership and control, should be strongly correlated with firm value and performance.<sup>64</sup> But my results indicate otherwise. Unfortunately, without further investigation that is well beyond the scope of this paper, it is impossible to identify any omitted variable that may be driving their signs. I thus leave such a task to future researchers.

### 3. Limitations

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<sup>64</sup> Interestingly, the correlation coefficient between inside ownership and firm value is also negative. Perhaps the driver is my broad definition of inside ownership as the sum of director holdings, affiliate holdings, and employee stock option plan ("ESOP") holdings.

My regression analyses raise three principal concerns: omitted variables bias, endogeneity, and robustness. The first concern is mitigated by my use of firm fixed effects, which controls for omitted variables that are constant within firms across time, but does nothing to control for time-varying omitted variables, such as managerial quality. Consequently, my analysis likely overlooks a host of important variables that cannot be captured without more data or the use of a more flexible error structure.

Potential endogeneity problems might be more severe. Most significantly, blockholding might be a function of Tobin's Q or ROA, with activist investors targeting underperforming or undervalued firms precisely because they believe that they will soon perform better or be more highly valued. To cure such problems, the usual solution is instrumental variables analyses. Unfortunately, scholars have not yet identified a truly valid instrument for blockholders in firm value or performance regressions.<sup>65</sup> Consequently, I leave such analyses for another day.

Robustness problems, in contrast, might be more tractable. For most of the analyses in this paper, I used two measures of blockholding and several measures of industry concentration. Nonetheless, my analyses overlooked four percent shareholders and failed to distinguish between active and passive investors, two groups that might have substantially different affects on firm value and performance. Additionally, because I often categorized firms by quantile--for example, by dividing industries into above and below median concentration--my results might be knife-edged. By perturbing cutoff points, using finer partitions, and collecting more investor data, future analyses could eliminate all of these concerns.

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<sup>65</sup> To mitigate the endogeneity problem, I tried instrumenting with the ratio of the average daily number shares traded to the average daily number of shares outstanding, hypothesizing that the liquidity ratio decreased the costs of blockholding but otherwise had no impact on firm value and performance. Unfortunately, endogeneity tests revealed that the liquidity ratio was highly correlated with all of the cash flow variables.

#### 4. Conclusions

In conclusion, both the performance and valuation regressions suggest that blockholders and strong internal governance increase firm performance and value only when product market competition is weak. Neither multivariate analysis, however, suggests that blockholding and strong internal governance are substitutes. Moreover, because the estimated coefficients on the triple interactions are consistently negative, my results create something of a puzzle: why would weak governance reduce the returns to blockholding in firms operating in relatively uncompetitive product markets? One explanation could be that when product market competition and shareholder rights are both weak, it is simply too expensive for blockholders to influence corporate performance. Another possibility is that in such an environment, there is so much potential for rent extraction that blockholders extract private benefits of control, sharing little of the value pie with smaller shareholders. In any case, distinguishing between such competing hypotheses is a problem for another day.

#### VI. CONCLUDING REMARKS

During the past decade, two disparate, but substantial literatures have linked internal governance and concentrated ownership to firm performance. This paper attempts to link those literatures. It also seeks to revitalize the notion that product market competition matters, and to introduce the hypothesis that the salutary effects of concentrated ownership and internal governance may vary with the strength of other agency cost checks.

By finding that strong internal governance and concentrated ownership increase firm performance and valuation only when product market competition is weak, I have shown that

previous studies may have been too coarse, potentially overlooking the role that other agency cost checks play in mitigating managerial rent-seeking. I have also shown the concentrated ownership and strong internal governance might not be substitutes, a surprising finding that is ripe for further research.

Although preliminary, my findings have substantial implications. First, they caution against assuming that concentrated ownership and strong shareholder rights affect all firms equally, always benefiting minority shareholders. Second, they suggest that policy makers consider a variety of channels when trying to reduce managerial agency costs, focusing not only on shareholder power, but also on blockholder disclosure rules and antitrust law. Third, my results potentially nudge the trajectory of future research, encouraging scholars to focus more on industry and firm heterogeneity, and to ignore the siren song of easy, one-size-fits-all solutions.